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FASHIONING EPISODES
THROUGH VIRTUAL HABIT:
THE EFFICACY OF PRE-LIVED EXPERIENCE

This inquiry argues for the efficacy of spontaneous mental pictures as primary agents for the implementation of habit change. Charles S. Peirce's[1] concept of virtual habit, especially articulated in his later manuscripts, delivers his ultimate claim regarding the work of mental picture interpretants (meanings/effects) to construct novel belief and action schemas. Virtual habits produce this effect (settled beliefs or putting into action what the image depicts) consequent to their status as dicisigns (signs in which index and icon together assert and imply arguments). As double signs in which index takes a primary role, virtual habits appeal to their interpretants by offering propositions, assertions

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[1] I shall refer to Peirce's writings using *The Collected Papers of Charles Sanders Peirce*, vol. I–VI: ed. Hartshorne and Weiss, and vol. VII and VIII: ed. Burks (Harvard University Press, 1931–1935, and 1958), in the standard way, by "CP", followed by volume number, decimal point, and paragraph number(s); to catalogued items in *The Essential Peirce*, vol. 1: ed. Houser and Kloesel, and vol. 2: Peirce Edition Project (Indiana University Press, 1992 and 1998), by "EP," followed by the volume number, a colon, and then the page number; his articles for the *Monist* collected in *The Logic of Interdisciplinarity: The Monist-Series*, ed. Bisanz (Berlin: Akademie–Verlag, 2008), by "LI" followed by the page number; and unpublished manuscripts by MS followed by the page number.

and arguments which depict episodic scenes.[2] As such, novel proposi-
tions/assertions are urged upon self or another as imperatives; and new-
ly conceived arguments implying how events affect particular conse-
quences are submitted to interlocutors.[3] This inquiry demonstrates how
virtual habits constitute a primary source for constructing plausible
remediative episodes and suggesting their implementation. Newly pro-
posed predicates within image propositions open up new ways of think-
ing about factual relations; and when newly conceived arguments are
submitted to others, they have the means to convince them of the verid-
icality of the inference implied within the image. In short, Peirce's no-
tion of virtual habit reinforces his commitment to a genuinely pragmat-
icistic world view, in that new beliefs are asserted; and novel recom-
mendations for courses of action are submitted.[4]

Foundational Considerations of
Virtual Habit

As early as 1867 (CP 2.398), the seeds for virtual habit (pre-lived
mental images) were expressed in Peirce's adherence to the Scotistic
distinction between three kinds of cognition: actual, habitual, and virtu-
al. In 1871, he clarifies the nature of the two former kinds (*actualiter*,
habitualiter) as follows:

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[2] Episodes can particularly lend themselves to Peirce's pragmaticism, in that they can
qualify as Existential Graphs, depicting in the mind beliefs and actions soon to be im-
plemented (for further discussion of this issues, cf. 1906: MS 298; LI 353). Cf. Kenneth
Boyd, "Peirce on Assertion, Speech Acts, and Taking Responsibility," *Transactions of
the Charles S. Peirce Society* 52 (Winter 2016): 29.

[3] Francesco Bellucci, "'Logic, Considered as Semeiotic': On Peirce's Philosophy of
Logic," *Transactions of the Charles S. Peirce Society* 50 (Winter 2014): 524. And
Thomas L. Short, *Peirce's Theory of Signs* (Cambridge: Cambridge University Press,
2007), 179–80.

[4] For elaboration of Peirce's pragmaticistic stance, see Mathias Girel, "Pragmatic Clari-
fications and Dispositions in Peirce's *How to Make our Ideas Clear*," *Cognitio: Revista
de Filosofia* 18 (Fall 2017): 45–68.

> There are two ways in which a thing may be in the mind—*habitualiter* and *actualiter*. A notion is in the mind *actualiter* when it is actually conceived; it is in the mind *habitualiter* when it can directly produce a conception. It is by virtue of mental association . . . that things are in the mind *habitualiter* . . . (EP 1: 92).

Likewise, in EP 1: 92 (1871), Peirce elaborates on the same distinction:

> The mind perceives likenesses and other relations in the objects of sense, and just as sense affords sensible images of things, so the intellect affords intelligible images of them. It is as such a species *intelligibilis* that Scotus supposes that a conception exists which is in the mind *habitualiter*, not *actualiter*.

The fact that *actualiter* is equivocal to "conceived" mental signs suggests a first-time look, if you will. This kind of knowledge representation entails non-ruminative mental processes not predicated upon integration with already existing knowledge. Such is often derivative of a priori knowledge or unconsciously conceived first impressions of sense.

While virtual habits can materialize from first impressions of sense (*actualiter*), they are not, in any way, equivocal with *actualiter*, given that they house novel inferences often from integration of several knowledge sources: long term memories, working memory components, and the like. Peirce's concept of *habitualiter* encompasses operations intrinsic to virtual habits; it emerges consequent to comparisons with already conceived concepts, and hence requires more conscious deliberation—connecting incoming knowledge with previous concepts. Although *habitualiter* shares some of the qualities of *virtualiter*, (the knowledge sources on which they depend) it lacks the means to posit novel inferences.

The first explicit mention of *virtualiter* appears c.1905 (CP 5.504), although without much explication/foundation. But, in 1907 (EP 2: 413), Peirce reveals (without terming it virtual habit) the pivotal function of a thing which is in the mind *virtualiter*. In doing so, he in-

troduces the dynamic effects of pre-performed mental pictures upon belief and action schemas:

> [E]very man exercises more or less control over himself by means of modifying his own habits; and the way in which he goes to work to bring this effect about in those cases in which circumstances will not permit him to practice reiterations of the desired kind of conduct in the outer world shows that he is virtually well-acquainted with the important principle that reiterations in the inner world [akin to virtual habits], fancied reiterations, if well intensified by direct effort, produce habits, just as do reiterations in the outer world; and these habits will have power to influence actual behavior in the outer world; especially if each reiteration be accompanied by a particular strong effort that is usually likened to issuing a command to one's future self.

It is here that Peirce determines that virtual habits, reiterations in the *inner* world, have the means not merely to suggest viable courses of belief and action in the *outer* world; but, in view of their vivid moving character, these image habits define the courses of action and belief. Furthermore, as "commands to one's future self," they compel the very conduct that they depict.

> Peirce reiterates the imperative-like purpose of virtual habit:

> [T]herefore I venture to think, be a sort of self-hypnotizing effect, when we strain, in some obscure way, to influence our future behavior, by calling it up as vividly as we can the image of a given sort of stimulus and that of our responding to it in the desired way. For we seem to command our organism or our soul as if we said to it: we will act thus: do you hear? Thus! Thus!! Thus!!! (MS 620: 26)

In supplying commands to the "future self," by way of sequential pictures[5] virtual habits urge (cf. supra discussions regarding Peirce's Pheme) the self to seriously consider adopting (asserting) the newly conceived proposition. Incorporating a prospective view of the self as

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[5] Harlene Hayne and Kana Imuta, "Episodic Memory in 3- and 4-Year-Old Children," *Developmental Psychobiology* 53 (April 2011): 321.

"future" is consonant with psychological definitions of episodic memory: "episodic memory supports the construction of imagined future events by flexibly retrieving and recombining stored information into a novel scenario."[6] Hence, by retrieving past information, and by integrating it with inferences conceived of on-line, mental pictures propose novel propositions.

From Propositions to Assertions

Imaging courses of imminent action and belief as specific salient episodes, illustrates more than a proposition; it indicates assertion of the proposition—the imagined behavior is adopted as veridical or as one's own; otherwise effort to focus on and refine the image's meaning would not be readily expended (1902–1903: CP 5.543). Accordingly, virtual habits represent quintessential exemplars of the earliest assertions emerging in ontogeny (as implied assertions), since they involve a real commitment (as required by Peirce) to the veracity of an ontological issue, hence affecting belief and action.

> Let us distinguish between the proposition and the assertion of the proposition. We will grant, if you please, that the proposition itself merely represents an image with a label or pointer attached to it. But to assert that proposition is to make oneself responsible for it, without any definite forfeit . . . (c.1902–1903: CP 5.543).

The step of framing informational pictures (images) into an episode for future modes of conduct makes the proposition one's own. This is orchestrated by attending to specific constructed mental episodes by way

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[6] Kevin Madore, Brendan Gaesser, and Daniel Schacter, "Constructive Episodic Simulation: Dissociable Effects of a Specificity Induction on Remembering, Imagining, and Describing in Young and Older Adults," *Journal of Experimental Psychology: Learning, Memory and Cognition* 40 (Fall 2014): 609.

of indexical pointers.[7] To elaborate: envisioning the proposition (attending to the integration of the how, where and when of its episodic features) implies affirmatively asserting it; as such, one has committed one's self to its truth value and the success of its effects.

Moreover, what is sorely under-recognized is the pivotal role of index in supplying the predicates necessary for virtual habits. It directs attention to meanings within the icon (augmenting subjects with predicates)—to reach propositional status. In fact, the most prominent purpose of index is to call attention to purposes for iconic features belonging to the image—ultimately to fabricate an episode for future conduct (e.g., the image of a withered tree supersedes subject status when index suggests the directive to remedy the condition).

In fact, Peirce utilizes index to wholly renovate the interpretants of signs whose representamen are pictorial in nature,[8] as is the case for virtual habits.

Before pictures in the mind have the power to establish new meanings, ordinarily novel modes of consciousness, they need to contain both an index and an icon, because without both representational components, pictorial signs can neither express nor imply propositions:

> It is remarkable that while neither a pure icon or a pure index can assert anything, an index which forces something to be an icon as a weathercock does, or which forces us to regard it as an icon, as a legend under a portrait does, does make an assertion and forms a proposition (1904: EP 2: 307).

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[7] For further discussion, see Frederik Stjernfelt, "Dicisigns and Habits: Implicit Propositions and Habit-Taking in Peirce's Pragmatism," in *Consensus on Peirce's Concept of Habit: Before and Beyond Consciousness*, ed. Donna West and Myrdene Anderson (Heidelberg: Springer–Verlag, 2016), 241–64.

[8] Cf. Thomas L. Short, "Interpreting Peirce's Interpretant: A Response to Lalor, Liszka, and Meyers," *Transactions of the Charles S. Peirce Society* 32 (Fall 1996): 490; Short, *Peirce's Theory of Signs*, 256–60; and also Donna West, "Index as Scaffold to Logical and Final Interpretants: Compulsive Urges and Modal Submissions," *Semiotica* Special Invitation Issue (forthcoming).

It is obvious that the presence of index in pictorial signs provides the predicate for propositions and assertions. In its function as dicisign, it is the sign most able to imply arguments—allowing the interpreter to infer why and how to meanings beyond obvious ones:

> But it is easy to see that the proposition proports to intend to compel its interpretant to refer to its real object, that is, represents itself as an index, while the argument proports to intend not compulsion, but action by means of comprehensible generals, that is, represents its character to be specially symbolic. The above is the best analysis the author can at present, make of the dicisign (1903: EP 2: 283).

Virtual habits utilize this quality of index; they constitute quintessential exemplars of dicisigns; they express propositions, while implying arguments.[9] As propositions, indexes as dicisigns compel attention to a novel fact in the inner world; at the same time, as arguments, they suggest conduct to be carried out in the outer world. In the dicisign, index plays a pivotal role in urging acceptance of novel predicates and in leveraging the novel assertion on other potential minds.[10] Here, index increases the potentiality of the dynamic interpretant by augmenting beliefs and actions associated with the picture/icon, "forcibly intrud[ing] upon the mind of the interpreter" (1903: CP 4.447). Index compels "like a mesmerizer—a pointing finger" (1885: CP 8.41) effects beyond what iconic components of pictures (subjects only) can afford.

Virtual habits utilize index move the static picture to another level—to submit an implied argument for others' consideration.[11] These submissions contain alternative remedies (future conduct)—how to

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[9] For a more elaborated discussion of the Dicisign, see Donna West, "The Work of Peirce's Dicisign in Representationalizing Early Deictic Events," *Semiotica* (in press).

[10] Donna West, "Indexical Scaffolds to Habit Formation," in *Consensus on Peirce's Concept of Habit: Before and Beyond Consciousness*, ed. Donna West and Myrdene Anderson (Heidelberg: Springer–Verlag, 2016), 224.

[11] For elaboration, see Donna West, "Virtual Habit as Episode-Builder in the Inferencing Process," *Cognitive Semiotics* 10 (Fall 2017): 55–75.

handle anticipated consequences. They supersede meanings of hy-poicons[12]—they have the power to express propositions and imply ar-guments. This sets virtual habits apart from static pictures; they flash glimpses of specific participants' future conduct before the mind. Here index is operational in that particular moving remediative templates insinuate themselves as viable candidates for enactment in the *outer* world. These pictures constitute pre-experienced scenes—ultimately commanding or suggesting modes of action in the immediate future.

Virtual Habits as Determinations

Because virtual habits have status as propositions, they constitute specific, determinative scenes for particular purposes. Peirce is emphat-ic that proposals for possible (likely) states of affairs via virtual habits (particular mental episodes) draw upon determinations (beyond resolu-tions) which contain definite icons (1911: MS 674: 14–15; and 1898: MS 485). Peirce makes plain that specific moving images in the mind can form the foundation for inferential reasoning only if they preempt plausible recommendations for particular action schemes to be utilized by actual parties. To preempt these new action strategies, pre-action images (virtual habits) must rise to the level of determinations, super-seding status as resolutions (1911: MS 674: 14–15). Peirce applies this rationale directly to virtual habits:

> But, hell is paved with good resolutions; and therefore to this promise must be attached good security or . . . the resolve which is compared to . . . thinking must be baked into the hard brickbat of a real determination of the habit machinery of his organism, which shall have force to govern his actions. A determination is a virtual habit (1909: MS 620).

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[12] "If a substantive be wanted, an iconic representamen may be termed a hypoicon" (1903: EP 2: 273).

By "baking" the moving image into the "hard brickbat of his habit machinery," Peirce illustrates how the determinative nature of virtual habits translates into conduct. Determinations are required; otherwise episodes would not be implementable into modes of action. They must be sufficiently specific, vivid, and be adopted as one's own to have force to produce practical effects. In short, the determinative character of mentally conceived episodes (virtual habits) prefigures remediative strategies for implementation.

Given their determinative character, the effects of virtual habits are often equivocal, if not more notable than are those of habit proper, because in spite of the unactualized character of the former, its effects impel viable change, and are as real as those of habit proper. Peirce expresses this as follows: "[W]hile it [virtual habit] is not an 'N', has, nevertheless, the characteristic behavior and properties of an 'N'" (1909: MS 620: 26). "N" here represents a culminating placeholder to impute a real effect—raising the status of the interpretant still higher, such that the effect of the imagined "N" is so potent as to bring about the actualization of the imagined episode. Peirce further illustrates these effects in his inclusion of Milton's characterization of an unrealized habit[13]—a vivid imagination of a happening as if it actually materialized, in this case a feeling of having been touched. In point of fact, the touch which Milton's Adam refers to rises beyond actual touch. The imagined effects (if they are sufficiently specific) can often supersede what actually transpires, and can even have the power to make more potent the perceived effects, thus encouraging subsequent interest in the paradigm. Peirce wishes to highlight the nature and power of effects

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[13] John Milton, *Paradise Lost*, VIII, 615–17: "Love not the Heav'nly spirits? And how their Love Express they? By looks only? Or do they mix Irradiance, virtual or immediate touch?" (accessed Sept 30, 2017, http://www.paradiselost.org/).

drawn from mental signs of real possibility, not from unfound-ed/obsessional hallucinations:[14]

> By "virtual touch" Milton's Adam meant something that was not touch, but we might all the delight that touch can bring. So a de-termination is not a habit . . . but it works all the effects of habit, and is, therefore, strictly speaking, a virtual habit (1909: MS 620: 26).

Here Peirce privileges "all the delights" that "habit can bring," given their power to initiate and manufacture new effects, especially affirma-tive feelings to drive future inquiry.

Interpretants of Virtual Habits

Virtual habits supersede mere imaginations; their interpretants have a distinctly modal character—to compel or to submit a new, plau-sible way forward (CP 8.338). Consequent to the effort in translating beliefs into novel action schemes, virtual habits contain logical inter-pretants,[15] while imaginations proper consist in emotional or at best energetic interpretants (in the event that a behavior ensues from the image). In short, the former (virtual habits) is characterized by a how-to for an improved state of affairs. As such, effects transcend limitations of Energetic Interpretants, superseding the proposal of single action schemes to satisfy individual outcomes. Instead, interpretants of virtual habits must be of the Logical kind, proposing a sequence of acts to be employed by a diversity of agents. The nature of the Logical Interpre-tant provides the objective character necessary to recommend courses of action, not merely for a single other, but for diverse others. Accord-

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[14] Donna West, "Peirce's Creative Hallucinations in the Ontogeny of Abductive Rea-soning," *Public Journal of Semiotics* 7 (Winter 2016): 52.

[15] Mats Bergman, "Beyond Explication: Meaning and Habit-Change," in *Consensus on Peirce's Concept of Habit: Before and Beyond Consciousness*, ed. Donna West and Myrdene Anderson (Heidelberg: Springer–Verlag, 2016), 187.

ingly, virtual habits integrate sequences of actions into a single whole or episode—such that a set of actions together has the foresight to renovate courses of action and consequences. This property of virtual habit results in measured steps toward remediation of a particular outcome. They obviate logical relations between event types—making salient relations among participants. Their episodic nature likewise highlights temporal and spatial conditions inherent to the events which comprise the episode.[16]

As such, the effects/interpretants of virtual habits are not dependent upon affirmation through actual implementation; they provide real value in knowing the effects before being materialized. Their effects transcend those of Energetic Interpretants (EP 2: 418).[17] They are not founded heavily upon retrospective experiences in which the self recalls past events; nor need they rely entirely upon observing others' past states of affairs. The effects of virtual habits ascend to prospective determinations of others' conduct together with considerations of the spatial and temporal conditions suggested were the episode to materialize for particular others. As such, Logical Interpretants propose possible, would-bes, useful to inform actual conduct. They ordinarily do so by initially projecting the self into a specific, likely state of affairs, then propose a revised episode substituting others. This obviates the fact that virtual habits are prospective in nature—not primarily constructed upon a single individual's past memories of event contours.[18] As such, virtual habits require a logical interpretant—capable of engendering a new objective order of things toward the ultimate interpretant.

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[16] Cf. Donna West, "Semiotic Determinants in Episode-Building: Beyond Autonoetic Consciousness," *Philosophy and Science* (under review).

[17] Erkki Kilpinen, "In What Sense Exactly Is Peirce's Habit-Concept Revolutionary?," in *Consensus on Peirce's Concept of Habit*, ed. Donna West and Myrdene Anderson (Heidelberg: Springer–Verlag, 2016), 209.

[18] Stanley Klein, "The Temporal Orientation of Memory: It's Time for a Change," *Journal of Applied Research in Memory and Cognition* 2 (2013): 226.

Establishing the comparative likelihood for certain kinds of virtual habits (states, single actions, sequential actions) to affect outcomes reveals which features are more responsible for significant remediative action. In fact, the need for the contributing event feature/event itself obviates the interplay between belief (underlying inferences) and action implementation, and reveals the degree to which age is a factor in mapping belief habits to modes of action. In view of the logical interpretants inherent to virtual habits, they can become a useful tool to generate decisions for remediative modes of action at early stages in ontogeny; and fashioning them across the life spectrum may unwittingly overt calamities.

The primary competency requisite to ascertaining the logical interpretants necessary for virtual habits include episode-building via autonoetic consciousness. This involves projecting egocentric and allocentric perspectives into sequential event frames.[19] Wheeler, Stuss, and Tulving define autonoesis as a system of memory that "renders possible conscious recollection of personal happenings and events from one's past and mental projection of anticipated events into one's subjective future."[20] The interpretants of virtual habits must consist in more than a subject in which static images are projected in the inner world; interpretants need to incorporate moving events which suggest participants' experiences within sequential frames. Absent sequential organization images could not suggest logical interpretants—courses of action likely to avoid or contribute to a consequence. Without an episodic component (incorporating autonoetic consciousness), mental images, however

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[19] Endel Tulving, "Episodic Memory and Autonoesis: Uniquely Human?," in *The Missing Link in Cognition: Origins of Self-Reflective Consciousness*, ed. Herbert Terrace and Janet Metcalfe (Oxford: Oxford University Press, 2005), 32.

[20] Mark Wheeler, Donald Stuss, and Endel Tulving, "Toward a Theory of Episodic Memory: The Frontal Lobes and Autonoetic Consciousness," *Psychological Bulletin* 121 (Fall 1997): 332.

vivid, do not qualify as virtual habits—they fall short of the means to pre-play novel logical event relationships.

To accomplish the former, goals must motivate images of event frames, to adequately capture how hypotheses translate into action to remedy real world problems. In short, until the interpretant rises to the level of the logical kind, images cannot lead to right guessing. They must incorporate appreciation for diverse perspectives in diverse situations (as do virtual habits)—projecting self into possible events which anyone may experience.[21] The logical interpretants would incorporate sufficient objectivity to extract course of action recommendations (Peirce's directive in MS 637: 12) from imaged episodes.

Virtual Habit as Modal Operator

In 1903, Peirce indicates that pictorial signs (originally Terms, Rhemes, and later Semes) can carry more than their explicit meanings/effects; they can imply arguments. In 1905 and 1906 Peirce determines that Propositions (which he ultimately refers to as Phemes and dicisigns) can contain implied arguments. Essentially, semes/Terms need not be limited to status as subjects of propositions, but can likewise imply their predicates. Moreover, "Phemes" can urge and imply arguments; and arguments and "Phemes" have the power to submit new perspectives for contemplation.[22]

> Such a sign [the Pheme] intends or has the air of intending to force some idea (in an interrogation), or some action (in a command), or some belief (in an assertion), upon the interpreter of it, just as if it were the direct and unmodified effect of that which it represents (1906: MS 295: 26).

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[21] Cf. Donna West, "Perspective-Switching as Event Affordance: The Ontogeny of Abductive Reasoning," *Cognitive Semiotics* 7 (Winter 2014): 149–76.

[22] Bellucci, "'Logic, Considered as Semeiotic'," 539.

Thus, when a Pheme or proposition "forces some idea . . . upon the interpreter," it urges that individual to believe it and/or to act upon it; and it can implicitly encourage others to take seriously the tenets of a newly constructed proposition to integrate into their own behavioral system. Peirce further treats these interpretants in 1908 in his sixth trichotomy "appeal to the dynamic interpretant" contained within his tenfold division of signs (1905: CP 8.338):

> [A] sign may appeal to its dynamic interpretant in three ways: an argument only may be Submitted to its interpretant as something the reasonableness of which will be acknowledged . . . An argument or dicent may be Urged upon the interpretant by an act of insistence . . . Arguments or dicents may be and a rheme can only be Presented to the interpretant for contemplation.

As such, Phemes can command others to think in new ways, or, can serve as submissions—allowing interpreters to contemplate veridicality for themselves.

The new taxonomy demonstrates further elevation of index—in its operation as Pheme, it infuses logical meanings into single episodes. Index ultimately expands the meanings of Dynamic Objects from having Energetic interpretants only, to having action effects which serve more objectively for diverse others as modes of remediative action. Since Index draws out implied meanings of icons (rhemes), it forces attention to meanings which are not explicit, not on the surface. Via index, unbidden pictures in the mind (rhemes) are elevated to Phemes by incorporating predicates. To illustrate: through index, a depiction of a withered tree supersedes notice of the natural structure—it can imply a state of health of the surround, disease, parched state, and can even suggest courses of action for others to take (arguments).

Accordingly, as Pheme, index can suggest to the mind of the interpreter which states of affairs are real possibilities, urging them to take a particular course of action. It can likewise submit a plausible strategy for problemsolving which others can contemplate and poten-

tially adopt as their own. As Pheme, index represents event/beliefs not as mere affirmations and denials, but as submissions for habit change (1906: MS 295: 43) Phemes and dicisigns depict events not merely as facts, but as episodes subject to the will of another (with subjunctive import).

In 1908 (EP 2: 490), Peirce augments the role of Index still further when he accords it symbolic status. This status is housed in what Peirce refers to as the "informational Index" or Dicisign.[23] This kind of Index transcends its explicit function to urge; it submits implicit arguments by compelling another's attention to novel problem-solving approaches. Peirce widens the interpretants of pictorial signs when he affords index the means to imply meanings/effects not obviated in the sign itself (meanings unrelated to similarity or imitative sign-object relations). To elaborate, a virtual habit can imply a command to elicit responses from another to certain prospective conditions, or can convince another that newly conceived of approaches are warranted. In this way, as Phemes, index's influence approximates that of arguments.

When Peirce explicitly states that the term "does not clearly indicate its object" (1903: MS 491: 9), he demonstrates the true extent of index's influence upon interpreters as argument. While in the proposition (later named "dicent/dicisign"), index explicitly draws attention to the Dynamical Object, other, more logical interpretants are implicit;[24] instead, meanings are left for the interpreter to speculate. When the Argument is explicit, however, both the Object and the Interpretant are

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[23] For further discussion, see Frederik Stjernfelt's: "Dicisigns and Habits," 241–64; "Dicisigns: Peirce's Semiotic Doctrine of Propositions," *Synthese* (2015), 1–36; and *Natural Propositions: The Actuality of Peirce's Doctrine of Dicisigns* (Boston: Docent Press, 2014).

[24] Stjernfelt indicates that the dicisign is a proposition that likewise contains an implied interpretant: Dicisigns, then, are tools for the description of the phases of reasoning— we may add: "tools for making explicit propositions with the aim of conducting arguments. Thus both Rhemes and dicisigns may be seen as potential or truncated arguments rather than autonomous figures" (Stjernfelt, *Natural Propositions*, 78).

not left to speculation, which may block the way of inquiry—failing to encourage interpreters to construct and adopt for themselves viable inferences.

In sum, the success of virtual habits is directly proportional with the degree to which interpreters are permitted to infer logical meanings for themselves from the depiction. Virtual habits then constitute Phemes urging factual nuances via episodic icons; and they constitute Delomes when they have the power to submit to the interpreter novel logical event connections for their ascent. As such, virtual habits are Phemes which appeal to the mind of another for adoption. In this way, they must incorporate deictic elements of modal logic—illustrating diverse postures of possible episode participants.[25] As such, belief and action paths of particular others to whom the propositions of the virtual habit are submitted can be pre-experienced. This means to pre-experience the effects of episodes creates a range of real potential instantiations in which the imagined episode can have similar effects on others beyond the here and now. As such, pictures depict harnessed episodes detailing how agents and receivers can benefit from action implementation. In this way, virtual habits pre-depict successful action-paths to be taken—they flash the specific events and their sequence in the mind which have the force of compelling the enactment of plausible inferences (recommendations for courses of action).

Conclusion

The upshot of virtual habits is the opportunity for early construction and review of potential strategies to be integrated within an objective belief and practical framework. Virtual habits allow outcomes to become obviated at an earlier stage in the inference-making process.

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[25] Cf. Donna West, *Deictic Imaginings: Semiosis at Work and at Play* (Heidelberg: Springer–Verlag, 2013).

This kind of habit previews the ontological direction of action templates, associating them with their logical effects. Virtual habits depict the locations, participants, and times necessary for certain outcomes-depictions of the where, who, and when of soon to be enacted episodes. To this end, recognition of specific episode types housed within the virtual habit establishes both belief for inference plausibility and plans for how the action will be orchestrated. The specificity of the protoplans as determinations invites immediate implementation of action-interventions, or recommendations to change action approaches. In this way, virtual habits transcend mere possibility for implementation of the action strategy; their vividity and specificity uniquely qualify them as soon to be actualized episodes.

Accordingly, virtual habits determine which images are submitted to others for contemplation (1905: CP 8.338), and which events will be put into practice, because the more impressionable the moving image, the more likely it is to be translated into conduct for problem resolution. In short, what virtual habits afford is a convincing path for immanent solutions, with index featured prominently in mentally conceived icons.

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SUMMARY

In MS 620 (1909), C. S. Peirce crafts his ultimate statement regarding habit-formation. Here he defines and illustrates the influence of specific vivid virtual habits with the objective of changing future beliefs/actions. The specificity of the protoplans as determinations invites immediate implementation of action interventions, or recommendations to change action approaches. In this way, virtual habits transcend mere possibility

for implementation of the action strategy; their vividity and specificity uniquely qualify them as soon to be actualized episodes.

KEYWORDS

Peirce, virtual habit, episodic memory, dicisign, proposition.

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